



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/662,426 | 09/16/2003 | Wei-Ming Lee | 146712004200 | 2374 |
| 25227 | 7590 | 11/15/2005 | EXAMINER | |
| MORRISON & FOERSTER LLP 1650 TYSONS BOULEVARD SUITE 300 MCLEAN, VA 22102 | | | CHAUDHRY, SAEED T | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1746 | |

DATE MAILED: 11/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/662,426

Applicant(s)

LEE ET AL.

Examiner

Saeed T. Chaudhry

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/16/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Election/Restriction

Applicant's election without traverse of Group I, claims 1-10 and 20 in Paper No. 10/17/05 is acknowledged.

Claim Rejections - 35 USC § 112

Claims 1, 2, 5, 7, 8, and 20 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for only disk, does not reasonably provide enablement for any article with different shape such as ball. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. Claimed article read on the objects, which are not like a disk and have flat surface.

Claim 9 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not provide the information to rotate the tape. It is not clear how the tape is rotated on the article, while translating on the article.

Claims 1-10 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, recite, "at an offset angle". It is indefinite and unclear that the offset angle is to which axis's of the article.

Art Unit: 1746

Claim 1 and 20, recite, "device that rotates the burnishing object". It is indefinite and unclear that how the device rotates. Does it rotate in x-axis or y-axis as compared to the article.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) he has abandoned the invention.

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

(f) he did not himself invent the subject matter sought to be patented.

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

Claims 1-8 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Tateyama et al.

Tateyama et al (5,375,291) disclose an apparatus cleaning a disk like substrate comprising a burnishing object (42) positioned over the substrate, which rotates with a motor (41) and swung in the direction Θ to translate and make an offset angle from the center of the substrate by a drive mechanism.

The object is not contacted with the substrate by air. The offset angle is changing while object is moving on the disk from outer to the inner diameter or in the reverse direction.

Art Unit: 1746

The apparatus is capable of simultaneously translating and rotating. The object is capable of making a wiper blade motion since it move in Θ direction.

A horizontal base 2 of the substrate-cleaning unit 38 is supported by four posts 3. A brush cleaner 5, an operation mechanism 6 and a spin chuck mechanism 40 are arranged on the horizontal base 2. The operation mechanism 6 serves to move a jet nozzle 13 and a brush 42 in the X and Z axes directions. The jet nozzle 13 is attached to the front end of an arm 17, which is supported by a mechanism 15. The arm 17 can be extended in the Y axis direction and swung in the direction Θ by the mechanism 15.

The brush 42 is wound round a shaft 44 in a spiral. This spiral brush 42 can make its contact area with the wafer W larger than the disk brush. In addition, it can make its contact pressure against the wafer W more uniform than the roll brush. It is made of nylon or mohair. The shaft 44 is rotated round its center axis, extended in the Y axis direction and swung in the direction θ by a drive mechanism 41, which is connected to the operation mechanism 6 by a lifter base 43 and moved in the Z axis direction by the lifter base 43. The brush cleaner 5 serves to clean the brush 42 when the brush 42 is at its waiting position. Tateyama et al discloses all the limitations as claimed herein. Therefore, Tateyama et al anticipated the claimed apparatus.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1746

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Tateyama et al.

Tateyama et al were discussed supra. However, the reference fails to disclose that burnishing object is a pad.

It would have been obvious at the time applicant invented the claimed apparatus to substitute a pad or a tape instead of a brush in the apparatus of Tateyama et al because it is matter of design and choice. It is well known in the art to interchangeably use brush with tape or pad for burnishing an article.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Itzkowitz (Re-36,767) discloses an apparatus having rotating brushes and translating the brushes on the surface of the disk by moving back and forth radially across the disk (see col. 4, lines 13-16 and Figs.). The reference fails to contact the article at a offset angle to the article surface of the axis of rotation of the article.

Art Unit: 1746

Maekawa (5,846,335) discloses and apparatus for rotating the brush and translating the brush on the surface of a disk. The reference fails to disclose an offset angle is variable over an area of an article (see Figs.).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saeed T. Chaudhry whose telephone number is (571) 272-1298. The examiner can normally be reached on Monday-Friday from 9:30 A.M. to 4:00 P.M.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Michael Barr, can be reached on (571)-272-1414. The fax phone number for non-final is (703)-872-9306.

When filing a FAX in Gp 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communication with the PTO that are for entry into the file of the application. This will expedite processing of your papers.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Saeed T. Chaudhry
Patent Examiner

A handwritten signature in black ink, appearing to read "Michael Barr", with a long horizontal flourish extending to the right.

MICHAEL BARR
SUPERVISORY PATENT EXAMINER